<u>Amendments to the Claims</u>:

This listing of claims will replace all prior versions, and listings, of claims in the application:

<u>Listing of Claims</u>:

Claims 1-22 (canceled).

Claim 23 (currently amended): Method for dividing ~~the~~ <u>a</u> bit rate of QPSK signals into at least two channels having band width limited filters in ~~the~~ <u>a</u> modulator and ~~the~~ <u>a</u> demodulator, by means of splitting ~~the~~ <u>a</u> bit stream of the QPSK signals <u>into two bit streams</u>, comprising the following characteristics:

-- Transmitting the two bit streams by means of at least two filter branches ($\boldsymbol{P}_1\boldsymbol{P}_1$*; $\boldsymbol{P}_2\boldsymbol{P}_2$*), into at least one purely real spectrum ($\boldsymbol{P}_1$) and at least one purely imaginary spectrum ($\boldsymbol{P}_2$), by means of filters ($\boldsymbol{P}_1$* and $\boldsymbol{P}_2$*) that form pulse former pairs, whereby

-- the divided bit stream is transmitted at half the bit rate f_g and, for an expansion to multi-carrier systems, ~~the~~ <u>an</u> alternating real and imaginary spectra are implemented by a low-

pass filter ($\boldsymbol{P_1}$) and subsequent modulation with equidistant cosine and sine carriers, and

-- remaining side band (RSB) filtering takes place, in which ~~a~~ the purely imaginary ~~transmission function~~ spectrum (P_2) is determined from the difference of a low-pass having ~~the~~ a band width f_g and of the low-pass P_1 having the band width $f_g/2$, whereby

-- ~~the~~ zero places of the pulse responses in the two filter branches ($\boldsymbol{P_1 x P_1}$* and $\boldsymbol{P_2 x P_2}$*) lie at a multiple of $1/\boldsymbol{f_g}$, and the transmitted bit rate lies at f_g, in each instance, and the spectra are band-limited;

-- Modulating the divided QPSK signals with ~~a~~ the sine carrier or ~~a~~ the cosine carrier, in each instance;

-- Transmitting the signal obtained in this manner to ~~the~~ a receiver with the demodulator, and demodulation of the signal;

-- Dividing the received signal by means of at least two filter branches with a purely real transmission function ($\boldsymbol{P_1}$*) and a purely imaginary transmission function ($\boldsymbol{P_2}$*) by means of at least two filter branches having filters ($\boldsymbol{P_1}$* and $\boldsymbol{P_2}$*) that form pulse former pairs, into at least two purely real spectra ($\boldsymbol{P_1 x P_1}$*

and $P_2 x P_2^*$), whereby the divided signal is transmitted at half the bit rate f_g;

-- Demodulating the signals having ~~the~~ a higher frequency by means of RSB ~~demodulation~~ filtering and evaluation as a basic band signal;

wherein the at least one purely real spectrum (P_1) has an upper flank and the at least one purely imaginary spectrum (P_2) has an upper flank and a lower flank; and

wherein ~~the~~ roots of the Nyquist flanks lie symmetrical to a frequency $\omega_g/2$ for the upper flank of P_1 and the lower flank of P_2, and lie at ω_g for the upper flank of P_2.

Claim 24 (canceled).

Claim 25 (currently amended): Method as recited in claim 23, wherein the pulse responses of the filter pairs are multiplied by ~~the~~ a factor Ö2 after the division into ~~the~~ an upper and a lower frequency range, with overlapping Nyquist flanks at $\omega/2$.

Claim 26 (previously presented): Method as recited in claim 23, wherein the following functions

$$\sqrt{|H_s(\omega)|} = \sqrt{\sin \pi \frac{|\omega|}{\omega_g}}$$

are inserted on the transmitter side and/or the reception side, and additionally, a Hilbert filter is inserted in the P_2 branch, thereby achieving a duobinary or partial response coding.

Claim 27 (currently amended): Method as recited in claim 26, wherein on the transmitter side, the filters ($\boldsymbol{P}_1$ and $\boldsymbol{P}_2$) form a Hilbert pair, and on the reception side, ~~the~~ scanning samples of the reception-side filters ($\boldsymbol{P}_1$* and $\boldsymbol{P}_2$*) are interchanged in terms of their places.

Claim 28 (previously presented): Method as recited in claim 26, wherein the filter ($\boldsymbol{P}_1$) is one having a root sine frequency passage in the range $-\omega_g \ldots \omega_g$ and that the filter ($\boldsymbol{P}_2$) is implemented by means of multiplication with j sign(ω) and the reception filters correspond to the transmission filters, but interchanged.

Claim 29 (currently amended): Method as recited in claim 26, wherein in the first filter branch, a low-pass ($\boldsymbol{P}_1$) is provided, and in the second filter branch, a band pass ($\boldsymbol{P}_2$) is provided, and ~~that~~ wherein the pulse responses in the filter branches ($\boldsymbol{P}_2 \boldsymbol{x} \boldsymbol{P}_2$*) have a higher frequency than the pulse responses that belong to ~~the~~ a product P_1^2 of the low-pass branches, and ~~that~~ wherein these pulse responses at ~~a~~ the higher frequency are evaluated by means of RSB ~~demodulation~~ filtering in the basic band range.

Claim 30 (previously presented): Method as recited in claim 29, wherein the band pass ($\boldsymbol{P}_2$) in the second filter branch is implemented by means of RSB-modulation using the filter P_1.

Claim 31 (previously presented): Method as recited in claim 23, wherein in the case of multi-carrier systems, the real and imaginary channels alternate and wherein this is done by means of RSB-modulation with cosine and sine carriers.

Claim 32 (canceled).

Claim 33 (currently amended): Method as recited in claim 23, wherein a cosine crest channel ($\boldsymbol{H}_c(\omega)$) is used, in order to completely avoid ~~the~~ cross-talk of ~~the~~ adjacent channels, whereby a remaining side band filtering is also carried out in order to form a duobinary coding.

Claim 34 (currently amended): Method as recited in claim 33, wherein ~~the~~ <u>a</u> loss of approximately 3 dB that occurs in the case of duobinary transmission with pre-coding and dual-path rectification is avoided by means of Viterbi decoding.

Claim 35 (currently amended): Method as recited in claim 23, wherein the transmitter-side RSB filters are shifted into the basic band with the transmission function H_{RSB} and the transmission function is broken down into an even portion ($H_g(j\omega)$) and an odd portion ($H_u(j\omega)$), and the odd portion ($H_u(j\omega)$) is multiplied by j to restore a real time function ($jH_u(j\omega)$), before a conversion by means of ~~a~~ <u>the</u> cosine carrier and ~~a~~ <u>the</u> sine

carrier takes place, and that the two portions are added or subtracted.

Claim 36 (previously presented): Method as recited in claim 35, wherein the flank of the RSB filters is designed as a root Nyquist flank and that on the reception side, the higher frequency portions that occur during demodulation are suppressed by means of simple low-pass filters.

Claim 37 (currently amended): Method as recited in claim 33, wherein the case of RSB modulation, the flank at the carrier is shaped in such a manner that after demodulation, ~~a cos~~ the cosine crest channel is obtained.